

DERWENT-ACC-NO: 2002-461504

DERWENT-WEEK: 200249

COPYRIGHT 2005 DERWENT INFORMATION LTD

TITLE: Direct heat dissipating type structure of BGA
substrate
efficiency - capable of increasing the heat dissipating
and simplifying the manufacturing process

INVENTOR: SHIU, S

PATENT-ASSIGNEE: PHOENIX PRECISION TECHNOLOGY CORP [PHOEN]

PRIORITY-DATA: 1999TW-0108336 (May 21, 1999)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE
PAGES MAIN-IPC		
TW 454277 A	September 11, 2001	N/A
000 H01L 021/60		

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO
APPL-DATE		
TW 454277A	N/A	1999TW-0108336
May 21, 1999		

INT-CL (IPC): H01L021/60, H05K007/20

ABSTRACTED-PUB-NO: TW 454277A

BASIC-ABSTRACT:

NOVELTY - The present invention relates to a direct heat dissipating type structure of BGA substrate, which includes a heat sink, an insulating resin layer, an upper circuit layer, a lower circuit layer and a plurality of PTHs. The heat sink has a body portion, a carrying portion and a combination portion. The carrying portion is arranged above the body portion. The combination portion is arranged below the body portion and its periphery is extended

outward to form a flange. The body portion of the heat sink is buried into the center of the substrate. The upper circuit layer is formed on the upper surface of the resin layer and has a plurality of bonding pads. The lower circuit layer is formed on the lower surface of the resin layer and has a plurality of solder ball pads. The upper and lower circuit layers are connected via a plurality of PTHs. When packaging the BGA substrate, a chip is directly adhered to the carrying portion of the heat sink and is coupled to the bonding pads on the upper circuit layer by a plurality of gold wires. The surfaces of the solder ball pads on the lower circuit layer are bonded with solder balls and the lower circuit layer is connected to the circuit board via the solder balls. In addition, the combination portion of the heat sink is directly bonded to the circuit board.

CHOSEN-DRAWING: Dwg.1/1

TITLE-TERMS: DIRECT HEAT DISSIPATE TYPE STRUCTURE SUBSTRATE CAPABLE INCREASE

HEAT DISSIPATE EFFICIENCY SIMPLIFY MANUFACTURE PROCESS

DERWENT-CLASS: U11 V04

EPI-CODES: U11-D01A3; U11-D01A5; U11-D01C6; U11-D02B1; V04-Q05; V04-T03;

SECONDARY-ACC-NO:

Non-CPI Secondary Accession Numbers: N2002-363732



